Fibonacci

```python
a=int(input("input a number:"))
if a==1 or a==2:
    print("this number is in fibonacci sequence")
else:
    b=1
    c=1
    d=2
    while d<a:
        b=c
        c=d
        d=b+c
        if d==a:
            print("this number is in fibonacci sequence")
            break
        if d>a:
            print("this number is not in fibonacci sequence")
            break
```

```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD6
4)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
=============== RESTART: D:/python 作业/课上/Fibonacci sequence.py ==============
==
input a number:55
this number is in fibonacci sequence
>>>
```

Factorial

```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64
)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
==================== RESTART: D:/python 作业/课上/Factorial.py ====================
3628800
>>>
==================== RESTART: D:/python 作业/课上/Factorial.py ====================
120
>>>
==================== RESTART: D:/python 作业/课上/Factorial.py ====================
3628800
>>>
```

```python
def factorial(n):
    if n==1:
        return 1
    else:
        return factorial (n-1 )* n
print(factorial(10))
```

Hanoi

```
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64
)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
==================== RESTART: D:/python 作业/课上/hanoi.py ====================
left to right
left to middle
right to middle
left to right
middle to left
middle to right
left to right
>>>
```

```python
def hanoi(a, b, c, d) :
    if a==1:
        print(b, "to", d)
        return
#       break
    else:
        hanoi(a-1, b, d, c)
        hanoi(1, b, c, d)
        hanoi(a-1, c, b, d)
hanoi(3, "left", "middle", "right")
```